CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

BSB-A6-R SAMPLING, DECEMBER 2003

MARCH 2004

IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 7

RECEIVED 3/11/2004

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

GROUNDWATER SAMPLING, SEPTEMBER 2003

JANUARY 2004

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 2/2/2004

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

GROUNDWATER SAMPLING, APRIL 2003

AUGUST 2003

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 8/11/2003

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

BSB-A6-R SAMPLING, DECEMBER 2002

MARCH 2003

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 3/28/2003

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

GROUNDWATER SAMPLING, SEPTEMBER 2002

DECEMBER 2002

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 12/26/2002

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

GROUNDWATER SAMPLING, MARCH 2002

JUNE 2002

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 6/17/2002

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

BSB-A6-R SAMPLING, DECEMBER 2001

APRIL 2002

IS LOCATED IN THE GROUNDWATER
MONITORING REPORTS ARCHIVE,
BOX NUMBER 7

RECEIVED 4/4/2002

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

BI-ANNUAL SAMPLING REPORT, OCTOBER 2001

JANUARY 2002

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 1/23/2002

CLOSED
BUTTE-SILVER BOW LANDFILL
LICENSE NUMBER 20

PIONEER TECHNICAL SERVICES

GROUNDWATER SAMPLING, JUNE 2001

NOVEMBER 2001

IS LOCATED IN THE GROUNDWATER MONITORING REPORTS ARCHIVE, BOX NUMBER 7

RECEIVED 11/29/2001

PIONEER
TECHNICAL SERVICES, INC.

P.O
e-mail

20

County Silver Bow
Facility & # Old Butte
Closure
Finan Assur
GW Corr Meas
GW Monitoring
GW Reports
Inspections
Other: Correspondence

Landfarm
Liner
Methane
O & M
Run - On

DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

November 27, 2001

Mr. Pat Crowley
MDEQ/Permitting and Compliance Division
P.O. Box 200901
Helena, MT 59620-0901

Dear Pat:

The enclosed summary table indicates Butte-Silver Bow's and AERL's plans for groundwater monitoring activities through 2002 at the old Butte-Silver Bow Landfill / Clark Tailings Site. This schedule is in accordance with the approved *Butte-Silver Bow Landfill / Clark Tailings Corrective Measures Assessment* (January, 1997, as amended). If you have any questions or comments regarding this schedule, please feel free to contact myself or Brad Archibald at 782-5177.

Sincerely,

Shawn Bisch
Sr. Environmental Engineer

encl.

cc: Gary Keeler, Butte-Silver Bow
Chuck Stilwell, AERL
Brad Archibald, Pioneer
Mike Borduin, Pioneer

100% post-consumer paper & 100% vegetable based inks

OLD BUTTE-SILVER BOW LANDFILL / CLARK TAILINGS
2001 / 2002 GROUNDWATER MONITORING SCHEDULE

Date	Description	Requirement
December 2001	Measure SWL and Sample Well BSB-A6 **VOC's (8260)**	Quarterly Sample to Assess Effectiveness of Corrective Measures.
March 2002	Measure SWL and Sample Wells MBMG-2, BSB-A1, BSB-A5, BSB-A6, CLK-1, and CLK-2. **Full Table 2 List of Analytes, Field Duplicate and Blank.**	Post-Closure Assessment Monitoring.
June 2002	Measure SWL and Sample Well BSB-A6 **VOC's (8260)**	Quarterly Sample to Assess Effectiveness of Corrective Measures.
September 2002	Measure SWL and Sample Wells MBMG-2, BSB-A1, BSB-A5, BSB-A6, CLK-1, and CLK-2. **Full Table 1 List of Analytes and Table 2 Detects.**	Post-Closure Assessment Monitoring.
December 2002	Measure SWL and Sample Well BSB-A6 **VOC's (8260)**	Quarterly Sample to Assess Effectiveness of Corrective Measures.

PIONEER
TECHNICAL SERVICES, INC.

P.C
e-mail

#20 - Orange
Silver Bow
County
Facility & # Old Butte.
Closure
Finan Assur
GW Corr Meas
GW Monitoring
GW Reports
Inspections
Other:
Landfarm
Liner
Methane
O & M
Run - On
Rocker - New - 330

August 16, 2001

Mr. F. Patrick Crowley
MDEQ-Solid Waste Program
Cogswell Building
Helena, MT 59620

RE: Sampling of Groundwater Monitoring Well BSB-A6 at Old BSB Landfill, License 20

Dear Pat:

The Butte-Silver Bow Old Landfill replacement monitoring well BSB-A6 (License #20) was sampled on April 11th for the Table 2 List minus dissolved metals. Please note that BSB-A6 was re-sampled on May 4th due to a quality assurance exceedance for Method 8151 A. Please find a summary table of water quality detects and the laboratory results from the April 11th and May 4th sampling events from Energy Laboratories and HKM Laboratory.

The replacement BSB-A6 had one detect above the detection limit (1,1-Dichloroethane) that was higher than the old BSB-A6. Additionally, two water quality parameters (COD and Sulfate) in the replacement BSB-A6 are above the old BSB-A6. All other water quality parameters and compound detects appear to be below the quantitation limit or below the old BSB-A6.

Based on our previous conversations and correspondence, as summarized in your April 26, 2001 letter to Gary Keeler, it is clear that contaminant concentrations are not noticeably increased over past sampling at this location. Therefore, we will continue with quarterly sampling of BSB-A6, as per the Corrective Measures Assessment. BSB-A6 was sampled at the end of June 2001 as part of routine BSB Old Landfill semi-annual sampling, we have not received analytical results as of this writing.

Please call me if you have any questions or comments regarding this information.

Sincerely,

Brad Archibald
Engineer

Encl.
cc. Gary Keeler, BSB Landfill Manager
Chuck Stillwell, ARCO.

100% post-consumer paper & 100% vegetable based inks

BUTTE-SILVER BOW OLD LANDFILL SAMPLING DETECTS FOR ORIGINAL AND REPLACEMENT MONITORING WELL BSB-A6

		Original BSB-A6					Replacement BSB-A6
		Nov-95	Dec-95	Feb-96	Sep-96	Mar-97	Apr-01
Water Quality							
	Chloride (mg/L)	60	M	M	M	49	38.4
	COD (mg/L)	431	M	M	M	336	4020
	Conductance (umhos/cm)	2.88	M	M	M	2.9	4.15
	<						<
	Cyanide Total (ug/L)	2.5	M	M	M	2.5	5
	Nitrate/Nitrite-N (mg/L)	0.08	M	M	M	25	0.05
	pH						5.7
	Sulfate (mg/L)	1730	M	M	M	1660	2890
	Sulfide (mg/L)	M	M	M	M	M	2.3
Compunds							
	<						
	Acetone	1.65	1.65	1.65	1.65	1.65	5.4
	Qualifier	U	U	U	U	U	J
	<						
	Benzene	0.41	0.39	0.45	0.33	0.51	0.25
	Qualifier						J
	<						
	n-Butlbenzene	2.48	2.48	2.48	2.48	2.48	0.27
	Qualifier	U	U	U	U	U	J
	<						
	Carbon Disulfide	0.045	1.8	1.7	0.045	0.4	1.1
	Qualifier						J
	<						
	Dichlorodifluoromethane	5.2	10	7.1	7.1	7.2	2.1
	Qualifier						
	<						
	1,1-Dichloroethane	0.13	0.11	0.14	0.02	0.02	2.2
	Qualifier						
	<						
	cis-1,2-Dichloroethene	66	49	88	33	34	3.3
	Qualifier						
	<						
	1,2-Dichloropropane	1.1	1.2	1.1	0.75	0.74	0.56
	Qualifier						J
	<						
	4-Isopropyltoluene						0.48
	Qualifier						J
	<						
	Methylene Chloride	0.5	0.03	0.03	0.42	0.03	0.54
	Qualifier						J
	<						
	Napthalene	0.13	0.13	0,13	0.13	0.13	0.69
	Qualifier	U	U	U	U	U	J
	<						
	Tetrachloroethene	2.7	3	2.9	2.3	1.8	0.6
	Qualifier						J
	<						
	Trichloroethene	6	6.7	6.2	4.8	3.4	0.53
	Qualifier						J
	<						
	1,2,4-Trimethylbenzene						0.28
	Qualifier						J

Qualifiers: U : Compound Not detected
J : Compound detected, but less than quantitation limit

RECEIVED
APR 0 9 2001
MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

PIONEER TECHNICAL SERVICES, INC.
PO Box 3445, Butte, Montana 59702
Phone: (406) 782-5177 FAX: (406) 782-5965
e-mail: pioneer@in-tch.com internet: www.pioneer-technical.com

Fax

To: Pat Crowley From: Brad Archibald

Company: MDEQ Pages w/ cover: 2

Fax #: 1-700-444-1901 Date: 4/9/01

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Hard copy to follow in mail

Comments:

Permitting 1374

PIONEER
TECHNICAL SERVICES, INC.

P.O. BOX 3445 BUTTE, MONTANA 59702
PHONE (406) 782-5177 FAX (406) 782-5866
e-mail pioneer@in-tch.com Internet www.pioneer-technical.com

April 9, 2001

RECEIVED
APR 09 2001
MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Mr. F. Patrick Crowley
MDEQ-Solid Waste Program
Cogswell Building
Helena, MT 59620

RE: Installation and Sampling of Groundwater Monitoring Well BSB-A6 at Old BSB Landfill

Dear Pat:

This letter is a follow up to your December 7, 2000 letter to Gary Keeler and the February 26, 2000 response letter from James Johnston, Director of Public Works in Butte, regarding the replacement and monitoring of groundwater monitoring well BSB-A6 at the Old Silver Bow Landfill/Clark Tailings site (License #20).

BSB-A6 was re-installed on March 15, 2001. The well was drilled by Dave Crowley of O'Keefe drilling, slightly to the north of the old BSB-A6, as planned. Well construction was supervised and logged Mike Borduin of Pioneer.

The initial sampling event for the well has been planned for April 9, 2001. We will sample for the Table 2 List minus dissolved metals. Quarterly sampling will commence in summer of 2001 (May or June), and conclude in the spring of 2002, as discussed in the December 12, 2000 letter to you from James Johnston, Director of Public Works.

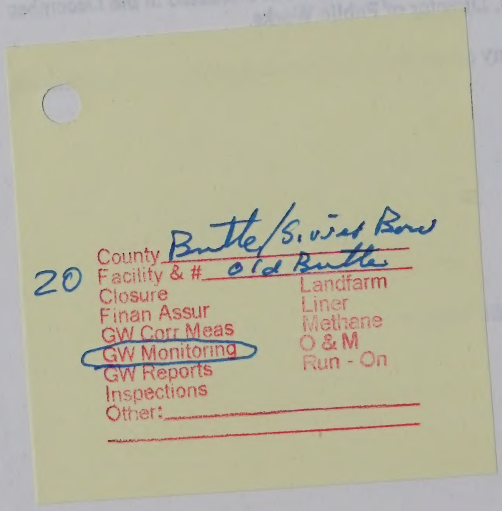
Please call me if you have any questions or comments regarding this information.

Sincerely,

Brad Archibald
Engineer

Encl.
cc. Gary Keeler, BSB Landfill Manager
Chuck Stillwell, ARCO

100% post-consumer paper & 100% vegetable based inks


20
County Butte/Silver Bow
Facility & # Old Butte
Closure
Finan Assur
GW Corr Meas
GW Monitoring
GW Reports
Inspections
Other:
Landfarm
Liner
Methane
O & M
Run - On

BUTTE-SILVER BOW
DEPARTMENT OF PUBLIC WORKS
Courthouse
Butte, Montana 59701
Phone: (406) 723-8262

February 26, 2001

Mr. F. Patrick Crowley
Montana Department of Environmental Quality
Permitting and Compliance Division
P.O. Box 200901
Helena, MT 59620-0901

Dear Pat:

This letter is in response to your December 7, 2000 letter to Gary Keeler regarding the replacement of groundwater monitoring well BSB-A6 at the Old Silver Bow Landfill/Clark Tailings site (License #20).

As you know, progress on completing the post-closure park improvements on the site has been slower than originally projected. Final grading work in the vicinity of the former well BSB-A6 was just completed this past fall, with the installation of the parking lot. Consequently, we have not yet installed the replacement well as was planned in the approved "Assessment of Corrective Measures" document. We plan to install this well by the spring 2001 sampling event, per your letter. We plan to install the well approximately slightly to the north of the previous well (as shown on the attached site map. We request this to allow for better access to the well for future sampling events and, more importantly, a safer location for our samplers.

Upon installation and development of the well, we will complete an initial sampling event. We intend to analyze for the full Table 2 list of analytes less Dissolved Metals, since dissolved metals are not part of the long-term compliance-monitoring plan for this well (Section 10.0, page 10-2 of the "Final Draft, Butte-Silver Bow Landfill/Clark Tailings Corrective Measures Assessment", dated January 1997, as amended via February 4, 1997 letter from Brad Archibald, Pioneer Technical Services to Pat Crowley, DEQ). Upon receipt of data from the original sampling, we propose that we sample quarterly (per the monitoring plan included in the Corrective Measures Assessment" until we have four samples to establish background, this monitoring will be for all constituents detected during the initial sampling.

Please advise if you are in agreement with this plan.

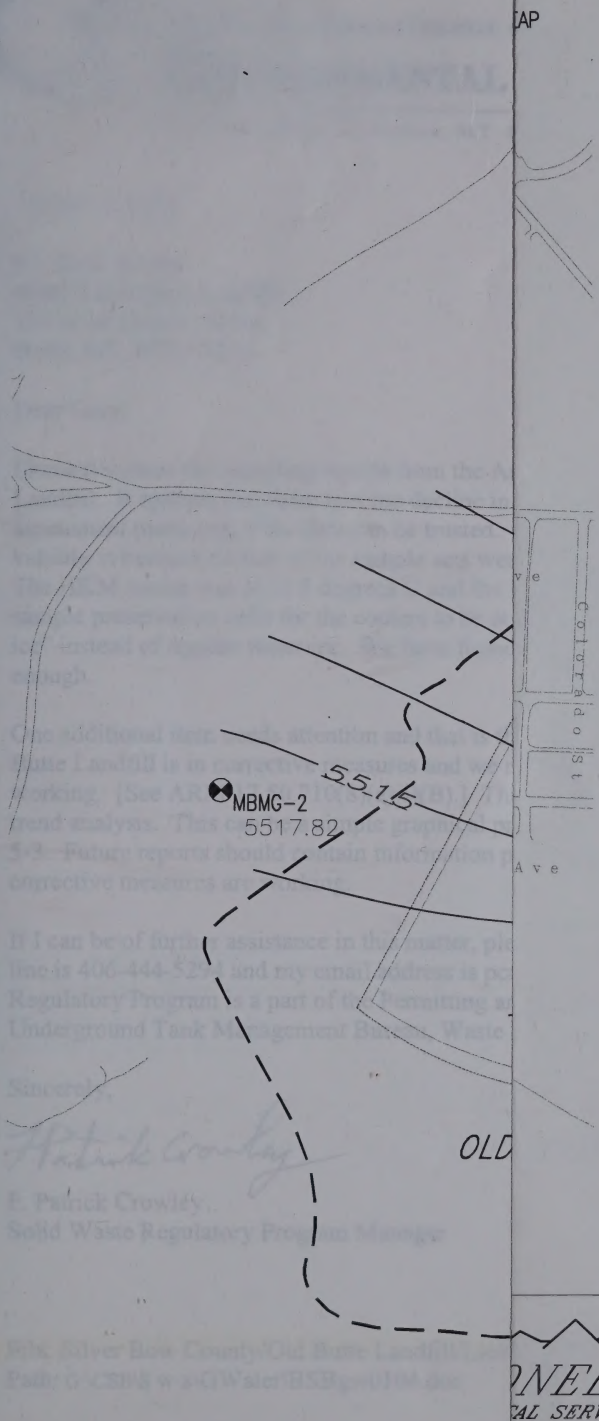
Sincerely,

James E. Johnston
Director of Public Works

Attachment

cc: Chuck Stilwell, AERL

RECEIVED
MAR 02 2001
MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU



NOTE: GROUNDWATER ELEVATIONS AND POTENTIOMETRIC SURFACE ARE FROM JULY 23, 1996 MEASUREMENTS

LEGEND

PROPOSED WELL

BSB-A6 WELL
5503.32 GROUNDWATER ELEVATION

GROUNDWATER CONTOUR

FIGURE
PROPOSED WELL
BSB-A6A LOCATION

SCALE: 1"=400'
DATE: 12/13/00

4537-well100

PIONEER TECHNICAL SERVICES, INC.

FIGURE
PROPOSED WELL
BSB-A6A LOCATION

SCALE: 1"=400'
DATE: 12/13/00

4537-well100

OLD BUTTE LANDFILL

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
1-12-04 SH

January 8, 2004

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

Dear Gary:

I have reviewed the sampling results from the April, 2003, sampling event at the Old Butte Landfill. It appears that there is some decline in contaminant values as the corrective measures assessment predicted, if the data can be trusted. The reason I have questions about the data validity is because neither of the sample sets were delivered to the lab at the proper temperature. The HKM cooler was at 16.5 degrees C and the Energy Labs cooler was at 9 degrees C. EPA sample preservation calls for the coolers to be at 4 degrees C. Perhaps Pioneer was using "blue ice" instead of regular water ice. We have found that "blue ice" does not keep samples cool enough.

One additional item needs attention and that is the statistical test used for data analysis. The Old Butte Landfill is in corrective measures and we need to determine how well these measures are working. [See ARM 17.50.710(8)(a)(i)(B).] The best method to demonstrate this is by doing a trend analysis. This can be a simple graphical presentation of the data instead of Table 5-2 and 5-3. Future reports should contain information presented in a manner to demonstrate that the corrective measures are working.

If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Waste Management Section.

Sincerely,

F. Patrick Crowley
Solid Waste Regulatory Program Manager

File: Silver Bow County/Old Butte Landfill/Lic#20/ground water monitoring
Path: G:\CSB\S w s\GWater\BSBgw0104.doc

MAILED

INITIALS _____ DATE _____

SW OUTGOING CORRESPONDENCE

NEW APPLICATION	Initial / Date
Janet H	_____
Rick T	_____

INSPECTIONS	Initial / Date
Pat C	_____
Janet H	_____
Rick T	_____

CLOSURES	Initial / Date
Janet H	_____
Rick T	_____

FEES	Initial / Date
Janet H	_____
Rick T	_____

COMPLAINTS	Initial / Date
Pat C	_____
Janet H	_____
Rick T	_____

GROUND WATER	Initial / Date
Pat C	FPC 1/09/04.
Janet H	JH 1-9-04
Rick T	RT 1/12/04

GEN CORRESPONDENCE	Initial / Date
Janet H	_____
Rick T	_____

MISCELLANEOUS	Initial / Date
_____	_____
_____	_____
_____	_____

MAILED
8-18-03 JH

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

August 14, 2003

Mr. Gary Keeler
Landfill Manager
Butte-Silver Bow County
126 West Granite
Butte, Mt 59701-9216

Subject: Old Butte Landfill Spring 2003 Assessment Monitoring Report

Dear Gary;

The Solid Waste Program received your Spring 2003 Assessment Monitoring Report on August 11, 2003. It was assigned to Pat Crowley for review. I anticipate that you will receive a response from Pat within ninety (90) days.

If you have any questions on the status of the review, please contact Ms. Potts at 406-444-5294 or by email at pcrowley@state.mt.us. If you have any other questions please contact me at 406-444-5345, or at rithompson@state.mt.us.

Sincerely,

Rick Thompson

Rick Thompson, Supervisor
Waste Management Section
Community Service Bureau

OldButteGWrpt.doc

Montana Department of
ENVIRONMENTAL QUALITY

Judy Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
4-7-03 fh

April 7, 2003

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

Dear Gary:

I have received the results of the December 13, 2002 groundwater sampling at well BSB-A6-R. They seem quite similar to previous results. As part of our attempt to improve our landfill information, we will be visiting wells at landfills for the purpose of obtaining a GPS location. This way we can tie the data we collect to geographical locations.

Thank you for your timely submission. If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Community Services Bureau, Waste Management Section. Our mailing address is P.O. Box 200901, Helena, MT 59620-0901.

Sincerely,

F. Patrick Crowley
Solid Waste Regulatory Program Manager

Pat

File: Silver Bow County/Old Butte Landfill/Lic. #20/ground water correspondence
Path: G:\CSB\S w s\GWater\Butte0403.doc

INITIALS _____ DATE _____

SW OUTGOING CORRESPONDENCE

NEW APPLICATION	Initial / Date
Janet H	
Rick T	
HAC	

INSPECTIONS	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

CLOSURES	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

FEES	Initial / Date
Janet H	
Rick T	
HAC	

COMPLAINTS	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

GROUND WATER	Initial / Date
Pat C	PAC 4/4
Janet H	[illegible] 4-4
Rick T	[illegible] 4-7-03

GEN CORRESPONDENCE	Initial / Date
Pat C	
Janet H	
Rick T	

MISCELLANEOUS	Initial / Date
_____	
_____	
_____	

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

February 12, 2003

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: Ground Water Monitoring, Old Butte Landfill, License Number 20

Dear Gary:

I have reviewed the September 12, 2003 sampling results from the old Butte-Silver Bow County landfill.

The trend graphs included for the wells for the contaminants of concern were informative. Vinyl chloride seems to be the only COC that is still above the MCL and should be included on the graph for BSB-A6R. It appears that the VOC's are following the natural degradation sequence and have a general overall downward trend. By the way, this trend can be tracked by summing the total of all of the VOC's present in a sample.

I also noticed that the temperature for the HKM cooler was 13.5 degrees C, but these samples were taken before the change in the sampling SOP requiring water ice instead of "blue ice."

If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Community Services Bureau, Waste Management Section. Our mailing address is P.O. Box 200901, Helena, MT 59620-0901.

Sincerely,

F. Patrick Crowley

F. Patrick Crowley
Solid Waste Regulatory Program Manager

File: Silver Bow County/ Old Butte Landfill/Lic.#20/groundwater
Path: G:\WUT\S w s\GWater\oldButte0903.doc

INITIALS FPC DATE 2/11/04

SW OUTGOING CORRESPONDENCE

NEW APPLICATION	Initial / Date
Janet H	
Rick T	

INSPECTIONS	Initial / Date
Pat C	
Janet H	
Rick T	

CLOSURES	Initial / Date
Janet H	
Rick T	

FEES	Initial / Date
Janet H	
Rick T	

COMPLAINTS	Initial / Date
Pat C	
Janet H	
Rick T	

✓GROUND WATER	Initial / Date
Pat C	FPC
Janet H	JH 2-11
Rick T	RT 2-12/04

GEN CORRESPONDENCE	Initial / Date
Janet H	
Rick T	

MISCELLANEOUS	Initial / Date

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
1-14-03 JH

January 13, 2003

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

Dear Gary:

I have reviewed the March 22, 2002 and September 5, 2002 sampling results from the old Butte-Silver Bow County landfill.

The statistical test chosen for use at this facility, intrawell comparison with the mean well value, is not as helpful in analyzing trends as other methods. The assessment monitoring being conducted at the landfill has a different emphasis from detection monitoring. Of more interest are the trends in these wells for the contaminants of concern. A simple graphical presentation would be more helpful in understanding if the contaminants are decreasing. There are several other statistical tests that can be used to measure trends in data, but these are not necessary at this time. The idea is to demonstrate that the corrective measures chosen at the landfill (closure, capping, and monitored natural attenuation) are working and that the ground water protection standards are being met. Trend graphs are also helpful in the detection of contaminant migration and the tracking of chemical degradation.

Could you please have your consultant contact me so we might discuss this matter.

If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Community Services Bureau, Waste Management Section. Our mailing address is P.O. Box 200901, Helena, MT 59620-0901.

Sincerely,

F. Patrick Crowley
Solid Waste Regulatory Program Manager

File: Silver Bow County/ Old Butte Landfill/Lic.#20/groundwater
Path: G:\CSB\S w s\GWater\oldButte0103.doc

INITIALS _____ DATE _____

SW OUTGOING CORRESPONDENCE

NEW APPLICATION	Initial / Date
Janet H	
Rick T	
HAC	

INSPECTIONS	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

CLOSURES	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

FEES	Initial / Date
Janet H	
Rick T	
HAC	

COMPLAINTS	Initial / Date
Pat C	
Janet H	
Rick T	
HAC	

GROUND WATER	Initial / Date
Pat C	PC 1/13/03
Janet H	JH 1-13-03
Rick T	RT 1-13-03

GEN CORRESPONDENCE	Initial / Date
Pat C	
Janet H	
Rick T	

MISCELLANEOUS	Initial / Date
_____	
_____	
_____	

Montana Department of
ENVIRONMENTAL QUALITY
Judy Martz, Governor
P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: www.deq.state.mt.us

MAILED
3-29-02 JH

March 29, 2002

Mr. Gary Keeler
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

Dear Gary:

I have reviewed the submission from the fall 2001 sampling event at the Old Butte Landfill. The results will be included in our database for that facility.

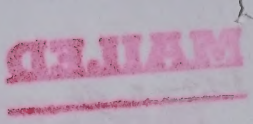
Thank you for this information.

If I can be of further assistance in this matter, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Community Services Bureau, Waste Management Section. Our mailing address is P.O. Box 200901, Helena, MT 59620-0901

Sincerely,

F. Patrick Crowley
Solid Waste Regulatory Program Manager

File: Silver Bow County/Old Butte Landfill/License #20/groundwater.
Path: G:\CSB\S w s\GWater\Tracking\BSBfall01.doc


MAILED

Montana Department of
ENVIRONMENTAL QUALITY

Judy H. Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.state.mt.us

MAILED
05-02-01 4h

April 26, 2001

Mr. Gary Keeler
Butte-Silver Bow Landfill
155 West Granite Street
Butte, MT 59701-9256

Dear Gary:

We have received Brad Archibald's letter of April 9, 2001, concerning the completion of the replacement well for BSB-A6 and the April 9, 2001 sampling. There is one area of concern on the sampling frequency of this replacement well, i.e., the establishment of baseline data. The new well is the key component in determining if the remediation efforts at the landfill are succeeding. The sampling schedule proposed may not be sufficiently timely to establish a new background for this well. As I stated in my December letter:

> In order to re-establish the statistical validity of samples from this new well, a minimum of four independent samples must be taken and analyzed for all Table 2 constituents detected during the initial sampling. This should be done as soon as the sampling results are available. (See ARM 17.50.710(1)(a)(V)(D).) This will enable the Department to track the progress of the corrective measures at the landfill from this point forward.

If the samples from the initial testing are noticeably increased from past sampling at this location, the sampling for baseline will need to be accelerated. According to procedures found in EPA guidance (Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, 1989) and the information in the Corrective Measures Assessment (CMA), three additional samples should be taken at weekly intervals to establish the minimum sample set needed. According to the CMA, the first flush of water from beneath the landfill should be occurring soon and the viability of the selected corrective measure should become apparent in the next year. If the first flush has already begun and the values are decreasing, then the quarterly sampling interval proposed will be sufficient to track the progress of the corrective measures.

If you have any questions relating to the proposed sampling schedule, please feel free to contact me. My direct phone line is 406-444-5294 and my email address is pcrowley@state.mt.us. The Solid Waste Regulatory Program is a part of the Permitting and Compliance Division, Community Services Bureau, Waste Managment Section. Our mailing address is P.O. Box 200901, Helena, MT 59620-0901

Sincerely,

Pat

F. Patrick Crowley
Solid Waste Regulatory Program Manager

cc: Brad Archibald, Pioneer Technical Services, P.O. Box 3445, Butte, MT 59702
File: Old Butte Landfill, Silver Bow County, License # 20, Ground Water
Path: G:\CSB\S w s\GWater\BSB ReWell2.doc

MAILED

INITIALS FPC DATE 5/1/01

SW OUTGOING CORRESPONDENCE 2001

☐ NEW APPLICATION/LICENSE — Initial / Date
- Mike D.
- Janet H.
- HAC
- Rick T.
- Jon D./ Other

☐ HEALTH OFFICER CARD — Initial / Date
- Mike D.
- Karen
- HAC

☐ INSPECTIONS — Initial / Date
- Pat C.
- Janet H.
- Karen
- Rick T.

☐ CLOSURES — Initial / Date
- Mike D.
- Janet H.
- Karen
- HAC
- Rick T./ Other

☐ FEES — Initial / Date
- Mike D.
- Janet H.
- HAC

☐ COMPLAINTS — Initial / Date
- Pat C.
- Janet H.
- Karen

☑ GROUND WATER — Initial / Date
- Janet H. JH 5-1-01
- Pat C FPC
- Rick T. RT 5-1-01

☐ GENERAL CORRESPONDENCE — Initial / Date
- Pat C. / Mike D.
- Janet H.
- Rick T.
- Jon D./ Other

☐ MISCELLANEOUS — Initial / Date
- _____
- _____
- _____

FILE
Path